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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,486	04/25/2001	Yasuo Iwasa	Q63961	4521

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EXAMINER
VO, HAI

ART UNIT	PAPER NUMBER
1771	5

DATE MAILED: 08/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Part of Paper No. 5

Office Action Summary	Application No.	Applicant(s)	
	09/841,486	IWASA ET AL.	
	Examiner	Art Unit	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-21 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1, 4, 7-11, 14, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita et al (US 5,059,630). Since the claimed porous resin film contains 0 to 70% by weight of at least one of an inorganic fine powder and an organic fine powder, the examiner interprets that claim 1 requires nothing about the inorganic or organic fine powders. Fujita discloses a porous sheet obtained from a compound prepared by kneading composition comprising 100 parts of polypropylene and 50 parts of high molecular compound B-1 (column 6, lines 58-60), likewise, the composition having about 67% by weight of polypropylene. Fujita further teaches the composition including polyalkylene oxide (column 3, lines 41-43). The porous sheet has the porosity of 29% (column 6, line 67). The component B is prepared by addition reaction of alkylene oxide to polycarboxylic acid (column 4, lines 6-14).

With regard to claim 9, it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. ***In re Hutchison***, 69 USPQ 138. Since Fujita is using the same hydrophilic thermoplastic resin, i.e., polyalkylene oxide to form a porous sheet as Applicant, it is the examiner's position that the water absorbency of the hydrophilic thermoplastic resin would be inherently present.

With regard to claims 14 and 18, the recitations "a liquid absorber" and "an ink jet recording medium" have not given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. ***Kropa v. Robie***, 88 USPQ 478 (CCPA 1951). It is the examiner's position that Fujita anticipates the claimed subject matter.

3. Claims 1, 4, 6, 8, 9, and 12-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al (US 4,506,037). Suzuki discloses a resin foam comprising about 50 % by weight of thermoplastic resin (example 2). Suzuki further discloses the thermoplastic resin being a combination of polypropylene and polyvinyl alcohol that is a hydrophilic thermoplastic resin (column 2, lines 20-40). The foamed cells are uniform and have a diameter of not more than 0.8 mm. The fine powder has an average particle size of 1.8 microns (example 3). The extruded sheet is stretching (column 10, lines 22-24). The resin foam has the skin layer on its surface

(column 9, lines 8-10). With regard to claims 14-19, see preamble rational with respect to claims 14 and 18 in paragraph no. 2. It is the examiner's position that Suzuki anticipates the claimed subject matter.

4. Claims 1, 4, 6, 7-10, and 12-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamanaka et al (US 6,086,987). Yamanaka discloses a stretched resin film made of a blend being meld-kneaded in an extruder and comprising 70% by weight of polypropylene and 0.5 to 10 parts of the sufonate of an alkylene oxide adducts of monohydric alcohols (column 3, lines 43-45, and table 1). Tables 1-4 show that the inorganic powder having an average particle size meeting the specific range required by the claims. The film has porosity of 40% (table 3).

With regard to claims 13, 16, 18 and 19, Yamanaka discloses the synthetic paper useful as an inkjet recording paper having a laminate film structure having a stretched film bonded to other film layers (column 6, lines 25-28, and 55-58).

With regard to claims 14 and 15, see preamble rational with respect to claims 14 and 18 in paragraph no. 2.

With regard to claims 20 and 21, Yamanaka discloses a water color ink being dropped to the recording paper (column 6, line 64 et seq.).

It is the examiner's position that Yamanaka anticipates the claimed subject matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 3, and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fujita et al (US 5,059,630). Since Fujita is using the same process and the same thermoplastic resin to form a porous film and the amount of the hydrophilic thermoplastic resin employed meeting the specific range required by the claims, and further, the contact angle with water is related to the amount of the hydrophilic thermoplastic resin, it is the examiner's position that the contact angle with water of the porous sheet would be inherently present. In addition, since the porosity dictates the void distribution and the sheet of Fujita has the porosity meeting the requirement of the claims, it is the examiner's position that the pores per m2 on the surface would be inherently present.

7. Claims 2, 3, and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamanaka et al (US 6,086,987). Yamanaka discloses the contact angle with water of the stretched film ranging from 20° to 42°(column 7, line 11). The range of the contact angle with water overlaps with the presently claimed range. Alternatively, for the non-overlapping part of the ranges, such a variable would have been recognized by one skilled in the art to control the image qualities. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the porous resin film having the contact angle with water instantly claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art,

discovering the optimum or workable ranges involves only routine skill in the art. ***In re Aller***, 105 USPQ 233. With regard to claim 5, see inherency rational with claim 5 in paragraph no. 5.

8. Claims 1-6, and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichinose et al (US 6,402,316). Ichinose discloses an inkjet recording medium comprising a layer structure as follows, a substrate 101, a porous inorganic particle layer 103, and a porous resin layer 102 (figure 2). Ichinose discloses a porous inorganic layer functions as an absorbing layer comprising inorganic particles and an organic binder (column 8, line 65 et seq.). The binder is a water-soluble polymer (column 10, lines 8-10). The mixing ratio of the inorganic particles to the organic binder is within a range of from 1:1 to 30:1 (column 10, lines 20-22), likewise the amount of the organic binder in the composition is from 3% to 50% by weight. However, such a variable would have been recognized by one skilled in the art to impart the mechanical strength and control the degree of the ink absorbency of the porous inorganic particle layer. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the claimed amount of the organic binder, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. ***In re Aller***, 105 USPQ 233. With regard to claims 2 and 3, Ichinose is silent as to the contact angle with water. However, such a variable would have been recognized by one skilled in the art to control the degree of wettability to water of the porous inorganic particle layer. As

such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the porous inorganic particle layer having a claimed contact angle, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. ***In re Aller***, 105 USPQ 233.

With regard to claims 4 and 5, Ichinose discloses the porous inorganic particle layer having a total pore volume from 0.1 to 1.0 cc/g (column 9, lines 50-51). Ichinose does not specifically disclose the porosity as well as the pore distribution. However, such a variable would have been recognized by one skilled in the art to control the degree of the ink absorbency of the porous inorganic particle layer. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the claimed porosity of the porous inorganic particle layer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. ***In re Aller***, 105 USPQ 233.

With regard to claim 6, Ichinose discloses the inorganic particle having a particle diameter from 0.02 to 0.5 microns (column 10, lines 1-2). However, such a variable would have been recognized by one skilled in the art to control the degree of the ink absorbency of the porous inorganic particle layer. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the inorganic particle with a diameter instantly claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art,

discovering the optimum or workable ranges involves only routine skill in the art. ***In re Aller***, 105 USPQ 233.

With regard to claims 20 and 21, Ichinose discloses an inkjet recording medium comprising a layer structure as follows, a substrate 101, a porous inorganic particle layer 103, and a porous resin layer 102 (figure 2) wherein the porous resin layer is an ink-receiving layer (column 8, lines 54-57).

9. Claims 1-6, and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6,136,425). Akiyama discloses a printing material comprising a substrate, a support provided on the substrate wherein the support includes a void layer and a light sensitive layer provided on the void layer (abstract, column 6, lines 50-65). The void layer of Akiyama is analogous to the porous resin film of the claimed invention, the light sensitive layer of Akiyama analogous to the color fixing layer of the claimed invention. Akiyama discloses the void layer comprising the solid fine particle and a hydrophilic binder and the solid fine particle content ratio to the hydrophilic binder is 1 to 10 by weight (column 5, lines 25-30). However, such a variable would have been recognized by one skilled in the art to impart the mechanical strength and control the degree of the water absorbency of the void layer. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the claimed amount of the hydrophilic binder, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. ***In re Aller***, 105 USPQ 233.

With regard to claims 2 and 3, Akiyama discloses the void layer having the contact angle with water at 25° (column 5, line 37).

With regard to claims 4 and 5, Akiyama discloses the void layer having a void volume not less than 0.5 to 40 ml/m2 (column 5, line 67). Akiyama does not specifically disclose the porosity as well as the pore distribution. However, such a variable would have been recognized by one skilled in the art to control the degree of the water absorbency of the void layer. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the claimed porosity of the porous inorganic particle layer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. ***In re Aller***, 105 USPQ 233.

With regard to claim 6, Ichinose discloses the inorganic particle having a particle diameter from 0.003 to 10 microns (column 5, line 6). However, such a variable would have been recognized by one skilled in the art to control the degree of the water absorbency of the void layer. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the inorganic particle with a diameter instantly claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. ***In re Aller***, 105 USPQ 233.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Monday to Friday, 8:30 to 5:00 (EAST). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV
August 8, 2002

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